REMARKS

The Office Action mailed January 17, 2007 has been received and carefully considered. Claims 1 – 4 are pending in the application. The claims stand rejected under 35 U.S.C. § 102 as being anticipated by US Patent Number 6,671,768 by Brown (hereinafter "Brown"). The rejection is respectfully traversed. The claims are further objected to as being indefinite under 35 U.S.C. § 112, paragraph 2. Claims 2 – 4 have been canceled and rewritten to overcome the objections and to clarify the invention. Fig. 1 has been amended to include a table having textual data for the numbered elements. New Fig. 4 has been added showing the three memory areas. It is believed that Fig. 4 is fully supported by the text of the specification and that no new matter has been added. Corrected substitute drawing sheets are attached to this response.

Brown describes a system and method for providing dynamic configuration Read Only (ROM) memory using double image buffers for use with serial bus devices. That is, Brown describes a double buffering system and method, having two buffers and a data base.

Double buffering is one technique used to service read requests from an unchanged "actual" configuration ROM buffer, while applying updates to a "next" configuration ROM buffer, which is prepared to become the "actual" buffer at the next bus reset. However, once a "next" buffer has been prepared for such substitution, it must not be changed until a bus reset occurs, as one cannot know whether a remotely initiated bus reset may occur during another update (unless the bus reset handling is locked against the update, which is undesirable and only possible in software). One solution would be to prevent further updates until a locally or remotely initiated bus reset happens. To enable multiple changes without unnecessary bus resets, it would be possible to compose multiple configuration ROM changes into the "next" buffer and to request its preparation afterwards (explicitly, or implicitly via the local bus reset request), again with blocking further updates until the pending bus reset.

The data base 13 from the Brown reference does not correspond to the third configuration ROM memory of the present invention. The data in the data base are not in the format of a configuration ROM but in some data base format (see column 9,

lines 20 to 24 of Brown). The data in the data base of Brown is never directly used for responding to read requests to the configuration ROM data. Upon receipt of a request for configuration data, the data in the data base of Brown are converted into the configuration ROM format, where the resulting data go into the update ROM memory area. The read requests are only served by the active ROM memory area (see column 4, lines 1 to 22 and column 6, lines 47 to 52). In Brown, the active buffer is exchanged with the update buffer and then a bus reset is issued.

Claim 1 as amended recites:

> A network subscriber station for a network of distributed stations, which are connected by means of a data bus, comprising:
> at least three reserved memory areas for operation-dependent interface configuration data;
> pointer means, which comprise electronic pointers for pointing to the at least three reserved memory areas;
> wherein a first of the at least three reserved memory areas is a current memory area for holding current interface configuration data, a second of the at least three reserved memory areas is a subsequent memory area for holding interface configuration data which are provided for retrieval after a subsequent reset operation on the data bus, and a third of the three memory areas is an editing memory area for holding editable interface configuration data,
> wherein said pointer means further comprises a first electronic pointer, a second electronic pointer and a third electronic pointer pointing to the current interface configuration data, the configuration data to be used after a subsequent bus reset, and the editable configuration data respectively;
> means for setting said second electronic pointer to configuration data to which said third electronic pointer points and means for setting the third pointer to configuration data to which neither the second electronic pointer points nor configuration data to which the third electronic pointer points;
> means for copying said configuration data to which the second electronic pointer points to the memory area to which the third electronic pointer points for completing editing in said third memory area; and
> means for setting said first electronic pointer to configuration data to which the second electronic pointer points immediately upon an occurrence of a bus reset event. (emphasis added)

In sharp contrast, the present invention is directed to a triple buffering apparatus and method for operating a network subscriber station such that updated configuration data is accurately and timely provided. The third configuration ROM memory according to the present invention contains the data already in configuration ROM format. According to the present invention, the data that has been added in the third configuration ROM memory area will directly be used after finishing the editing

and after the bus reset in answering read requests. Please note that the last step exchanges the pointer entries for the edit pointer and next pointer and later when the bus reset occurs the actual pointer is set to the value of the next pointer. Please see for example time instances T2 and T5 or T15 and T19 or T30 and T31 as well as T50 and T52 in Fig. 3.

A very important point in this regard is that Brown reference ignores possible race conditions which may occur if double buffering is used, which can lead to the retrieval of inconsistent configuration ROM data. The present invention, which uses triple buffering, avoids such conflicts. For example, in the case, that between the data exchange and the bus reset a read request on the configuration ROM is received, a requesting node may receive data from the new version in the configuration ROM and combine it with previously read data before the data exchange was done. This would lead to an inconsistent configuration ROM data set. This is avoided in the present invention where just the pointers for the actual pointer and next pointer are switched at the time instance when the bus reset occurs. In the present invention, if a bus reset (initiated remotely or by another local application) occurs during a series of updates, the most recent configuration ROM buffer will be used as "actual" buffer, but the update sequence will continue normally.

Further, in open host controller interface (OHCI) chip technology, the exchange of the update and active buffers of Brown would not be possible and read requests would always be served by the active buffer because the change to the update buffer is performed by the hardware upon the occurrence of a bus reset event.

It is, therefore, respectfully submitted that independent claim 1 is not anticipated and is patentable over Brown. Claim 2 depends directly from claim 1 and is therefore, patentable as is its parent claim.

Arguments similar to those made above with respect to claim 1 can be made for independent claim 6.

Applicants have amended their claims to overcome all of Examiner's objections and rejections and have demonstrated why the claims as amended are patentable over the references of record. No fees are believed to be required for this amendment; a Petition for Extension and the requisite fee accompanies this amendment. Please charge any additional fees required for the petition or amendment or refund any overpayments to deposit account number 07-0832.

Respectfully submitted,

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